

1. A Monograph of the Sawflies composing the Australian Genus *Perga* of Leach. By J. O. WESTWOOD, M.A., F.L.S., &c.

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(Plates XXXIII.—XXXVII.)

Family TENTHREDINIDÆ.

Genus PERGA, Leach, Zool. Miscell. iii. p. 115.

Antennæ breves vel brevissimæ, 6-articulatæ (rarius 7-, rarissime 5-articulatæ), articulo ultimo clavam efformante. Labrum parvum, subsemicirculare. Clypeus distinctus, transversus, antice sæpe emarginatus. Mandibulæ validæ, arcuatæ, dimidio basali lato, in medio dente vel incisione parva angulata instructæ; apice acutæ. Palpi breves, subæquales, maxillares 4-articulati, labiales 3-articulati. Collare utrinque in squamam magnam lateralem productum. Alæ latæ, cellula unica marginali apice appendiculato, cellulisque 4 submarginalibus, stigmatè magno, margine alarum anticarum pone stigma in maribus sæpe dilatato et oblique truncato; venulis inter cellulas marginales sæpe medio bullatis. Tibiæ 4; posticæ in medio lateris interai spinula armatæ, apiceque bicalcaratæ, calcaribus mediocribus acutis simplicibus.

The fine species of this genus are natives of Australasia, where they represent the *Cimbeces* of the northern hemisphere. They are represented also in South America by the species of the genus *Pachylosticta*, which, both in their metallic colours and the curious structure of the dilated fore wings, offer a complete analogy to the *Pergæ*.

With the exception of the *Cimbeces*, they are the largest known species of Sawflies; and several of the species even rival the larger species of *Cimex* (which are the giants of the family) in size.

The antennæ are very short and clavate, in a few of the species scarcely extending as far as the eyes; they are inserted on the outer margins of two frontal tubercles. In one species they are even deficient of one of the intervening joints, being only 5-jointed (*Perga mayrii*), whilst in several of the species (*P. leachii*, *jurinei*, and *halidaii*) the basal portion of the terminal clavate joint is distinctly articulated, making the organ 7-jointed. I have not thought it advisable to separate these species generically from the rest.

The *mouth* of the species in this genus offers some peculiarities hitherto not noticed. The mandibles are strong and horny, the apical half curved and acute at the tip, the basal portion flattened, terminating on the inner edge in a deep simple incision. The maxillæ and labium, with the palpi, are short and united into a mass by basal membrane, as shown in Plate XXXIII. figs. 2 and 3—the inner lining (fig. 3), and also apparently the outer connecting skin of these organs being apparently continuous and not exhibiting any

articulation. This structure appears to be nearly similar to that observed in some Neuroptera, as in *Panorpa*—the mentum sitting upon the conjoined membrane of the inner margins of the basal portions of the maxillæ. These parts being comparatively short, are incapable of being folded back as in the *Cimbece*s, and consequently lie flat when at rest; the diminished size affects the palpi, which are all nearly alike in their dimensions, the maxillary pair having only four joints, and the labial pair three—characters which have hitherto remained unnoticed, by which they are distinguished from all the other genera of Tenthredinidæ, which, as shown by Curtis (Brit. Entom.), have 6-jointed maxillary and 4-jointed labial palpi.

The middle portion of the thorax (mesonotum) is, in many of the species, marked with an impressed longitudinal canal extending from the front margin halfway to the great scutellum.

There are also two deep impressed lines extending from the middle of the inner margin of the dilated lobes of the collar, converging in the centre of the back and forming a sharp angle, which is often preceded by a hastate spot of a pale colour; the sides of the mesonotum are also often longitudinally raised, the lateral margins being also acute and parallel. The scutellum is of large size, generally pale-coloured, and furnished at each of its posterior angles with a small projecting tubercle. This scutellum is followed by a joint which is clearly the representative of the metanotum (Comp. my Introd. Mod. Class. Ins. ii. p. 115, figs. 2 & 3, s), and not the basal segment of the abdomen, from which it is generally separated by a distinct narrow membrane which is not seen to exist between the true segments of the abdomen.

The abdomen of the males is generally short and truncate at the tips, and often setose on the upper surface, the setæ or sericeous covering in one species (*P. dorsalis*, Leach) being so dense as to give a distinct colour to the dorsal patch.

The wings are large or of moderate size, those of the males being smaller than those of the females; in the former, moreover, the stigma of the fore wing is large, and the anterior margin of the wing beyond the stigma is, in some species, obliquely truncate, giving quite a distorted appearance to the wing. This character was employed by Leach for one of his sections of the genus; but, being merely sexual, it is inadmissible for such a purpose. The transverse veinlets between the submarginal cells are often partially obliterated or bullated in the middle, the first being in a few species either quite lost or only partially indicated, upon which character (as seen in *P. lewisii* &c.) M. Guérin-Ménéville proposed to form a separate subgenus; but there is no clear line of demarcation in the species in this respect. The shape of the cells of the fore wings affords good specific characters. The marginal cell is always furnished at its extremity with a slender veinlet extending to the tip of the wing, the extremity of the cell itself being at a greater or less distance from the extremity of the stigma, the tip of the cell being sometimes quite acute and sometimes obtuse. The shape also of the third submarginal cell is also varied in consequence of the direc-

tion of the cross veinlet at its extremity, which is sometimes quite straight, in others much curved; in one species it is sharply angulated in the middle (*P. walkeri*); and in another species (*P. schiodtei*) the female has occasionally a small supplemental spur, extending from the middle of this angulated cross veinlet. The closed cells vary in their extent, sometimes scarcely extending beyond the stigma and sometimes reaching nearly to the hind margin of the wings.

The legs are generally rather short, especially in the males, in which sex they are thickened. The tarsi vary considerably in length, being generally shorter than the tibiæ; but in the females of *P. lewisii*, as well as in other species, the tarsi are more elongated, with the joints flattened and the cushion on the underside more developed.

Dr. Leach divided the genus into as many sections as the species with which he was acquainted, employing the antennæ and wing-cells as characteristic of his groups, which were as follows:—

- A. Alis anticis ante arcolam marginalem non prominentibus (antennis articulo tertio duobus sequentibus longiore).
- a. Areolis submarginalibus duabus primis confluentibus, ultima ad basin superne subacuminata; areola marginali clongata, antice et postice acuminata Sp. 1. *P. polita*.
 - b. Areolis submarginalibus perfectis, ultima basi arcuato-emarginata; areola marginali clongata, antice et postice acuminata..... Sp. 2. *P. bicolor*.
 - c. Areolis submarginalibus perfectis, ultima basi recta; areola marginali ovata..... Sp. 3. *P. latreillii*.
- B. Alæ antice ante areolam marginalem prominens (areola submarginali ultima basi superne acuminata).
- a. Areola marginali ovata; antennis articulo tertio duobus sequentibus longiore Sp. 4. *P. dorsalis*.
 - b. Areola marginali elongata angusta utrinque (postice præsertim) acuminata; antennis articulis tertia et quarto subæqualibus, tertio longiore, articulo quinto præcedente brevior..... Sp. 5. *P. kirbii*.
 - c. Areola marginali fere lineari, antice obtusa postice acutiuscula, antennis articulis tertio, quarto, et quinto fere æqualibus Sp. 6. *P. ferruginea*.

I have not thought it necessary to carry out this principle of subdivision into the numerous species now known of the genus, which would have required a formidable tabulation of the specific distinctions of the insects with their sectional characters. Neither have I thought it necessary to adopt the subgenus *Pseudoperga*, proposed by M. Guérin-Méneville (in the text of the 'Iconographie du Règne Animal, Ins.,' p. 395) for *P. lewisii* on account of the first and second submarginal cells being confluent by the almost obsolete condition of the transverse veinlet separating them in the ordinary species.

Details of the natural history of two of the species, *P. dorsalis* and *P. lewisii*, have been recorded, condensed abstracts of which will

be found added to the technical specific descriptions of these two insects.

Many of the species are remarkable for metallic colours, which are of rare occurrence in the majority of the species of the family to which they belong.

1. PERGA DORSALIS.

Perga dorsalis, Leach, Zool. Misc. iii. p. 117, ♂.

♀. *Perga scutellata*, Westw. in Griffith's Anim. Kingd. Ius. pl. 76. fig. 2, and pl. 106. fig. 3, vol. ii. pp. 402, 792.

"*P. cæruleo-chalybeata*; clypeo, labro, antennis, pleuris macula triangulari, thoracis angulis anticis, scutello pedibusque subferrugineo-luteis, abdomine supra macula magna quadrata sericea flavida externe serrata; alis fulvescentibus, pterygosteorum margine stigmatæque ferrugineis; mandibulæ luteo-ferrugineæ, latere interno nigricantes. Variat femoribus posticis apice nigris; abdomen postice subangustatum. Fœmina latet. Long. corp. $10\frac{1}{2}$, exp. alar. $21\frac{1}{2}$ lin." (Leach.)

Species permagna, maris abdomine macula magna quadrata sericea (segmenta media dorsalia occupante), alisque anticis stigmatæ magno, margine antico pone stigma oblique subtruncato; scutello in mare plano, in fœmina macula transversa breviori albida notato; abdomineque supra viridi-cæneo subnitido.

Hab. in Australasiâ (Moreton Bay &c.). In Mus. Hopeiano plurima individua utriusque sexûs.

The details of the structure of the female published from my drawings in Griffith's 'Animal Kingdom,' pl. 106, were copied by Guérin-Méneville in his 'Iconographie du Règne Animal, Insectes,' pl. 64. fig. 2. Another figure of the female was published by Brullé ('Hist. Nat. Ins. Hym.' iv. pl. 48. fig. 1, p. 674) under the name of *Perga scutellata*, Leach.

An account of the habits of this species, under the name of *Perga eucalypti*, was published by Messrs. Bennett and Scott in Proc. Zool. Soc. 1859, p. 209, (Annulosa) pl. 62, with figures of the larvæ and of the female insect.

The larvæ were found living gregariously on the leaves of *Eucalyptus citriodora* and other species, as well as upon *Callistemon*, which they rapidly destroy. The larvæ were huddled together both on the upper and under sides of the leaves, arranged, for the most part, in regular rows. When disturbed they bend their bodies in the form of an arch, and emit a greenish fluid from the mouth; they also emitted so powerful an odour of the leaves on which they had been feeding as to scent the room in which they were placed. When full-grown they are from $2-2\frac{1}{4}$ inches long, of a uniform velvety black, with numerous short, stiff white hairs, and with only six large squamous reddish feet, apparently being destitute of the fleshy prolegs so common in the larvæ of Tenthredinidæ. When feeding, they keep the abdominal portion of their bodies in motion, rapping their extremities against the leaves. They bury themselves underground in October, forming brownish cocoons of

a very strong texture; and the perfect insect appears in the following March.

From the accompanying figures the larvæ have the body gradually attenuated behind, terminating in a sharp point, which they seem to use as a prehensile organ. On the edge of the leaf inhabited by the larvæ are represented several oval black objects emitting white bristles, which are not described in the memoir, and which may possibly be intended for excrement or cast skins of the larvæ.

2. PERGA KLUGII, sp. nov. (Plate XXXIV. figs. 1, 2.)

P. politæ (Leach) *affinis, fulvo-castanea, mesonoti medio absque macula flava, scutello flavo vix longitudinaliter impresso.*

Mas. *Clypeo recte transverso; labro, tuberculis antenniferis antennisque fulvis; vertice vix longitudinaliter impresso, prominentiis duabus in medio parum distinctioribus; antennis ultra oculos extensis, articulis tribus intermediis gracilibus fere æqualibus; thorace magno, collaris lobis pallide flavis vage punctatis; mesonoto punctatissimo, linea tenui media antice impressa, lateribus parallelis, a scuto mesonoti haud distincte separatis; scutello magno, plano, nitido, impunctato, fulvo, transverso-ovali, tuberculis duobus posticis distantibus, impressione media longitudinali vix distincta, margineque postico parum elevato; meso- et metapleuris rude punctatis, macula parva flavida notatis; abdomine toto fulvo-castaneo subnitido; corpore infra cum coxis et pedibus concoloribus, tibiis tarsisque pallidioribus, femoribus et apice tiliarum 2 posticarum interdum obscurioribus; alis hyalinis, parum fulvescentibus, venis stigmatæque fulvis, cellula prima submarginali parva, secunda paullo majore pentagonali, tertia magnitudine præcedentibus simul sumptis æquali, apice valde obliquo et curvato.*

Fœmina differt vertice magis distincte longitudinaliter impresso.

Long. corp. ♂ lin. 9, ♀ lin. 10–11. Expans. alar. antic. ♂ lin. 18, ♀ lin. 18–23.

Hab. in Australasia (Albany &c.). In Mus. Hopeiano, &c.

3. PERGA POLITA.

Perga polita, Leach, Zool. Misc. iii. p. 115.

P. brunneo-violascens, polita, nitens; thorace ferrugineo; disco maculis, squamis, pleuris, scutello, capite, antennis, coxis, tibiis, tarsisque flavis, femoribus ventreque subviolascanti-ferrugineis politis, stigmatibus postice albido notatis, alis fulvescentibus; pterygosteis, margine stigmatæque ferrugineis; mandibulæ saturate ferrugineæ latere interiore apiceque nigris; scutellum postice ferrugineo-brunneum.

Species magna, scutello fortiter canaliculato (characterè Leachio neglecto), alisque anticis pone stigma nonnihil saturatoribus facillime distinguenda.

Long. maris $\frac{2}{3}$ unc. Expans. alar. antic. $1\frac{1}{4}$ unc.

Hab. in Terra Van Diemeni; Australia (e Dom. Macleao accepta), Hunter's River; Melbourne (Bakewell); Moreton Bay, and Gold Diggings. In Mus. Hop. Oxoniæ.

4. PERGA SCHIODTEI, sp. nov. (Plate XXXIV. figs. 3, 4.)

P. dorsali proxima at minor, maris alis aliter formatis, foemina cyanea nec virescens.

Mas. Brunneo-castaneus, cæruleo-nitens, abdominis apice rufo; foemina capite et thorace cyaneo-nigris, abdomine cyaneo; mandibulis utriusque sexus castaneis apice nigris; clypeo et labro flavis, tuberculis antenniferis subfulvis; antennis castaneis, articulis intermediis gracilibus subæquilongis, vertice linea media longitudinali impressa in fossulam rotundam ocelligeram antice terminata, lateribus verticis subplanis; collaris lobis flavidis punctatis; mesonoto antice oblongo-punctato, linea tenui media impressa, parte postica nitidissima cærulea, lateribus castaneis; scutello transverso-ovali, plano, impunctato, flavido, postice tuberculis duobus castaneis instructo; metanoto subcastaneo; abdominis dimidio basali cæruleo-nitido, apice castaneo-fulvo; thorace subtus impunctato, cum pedibus castaneo-fulvis, pleuris albidis grosse punctatis; pedibus fulvis, tibiis tarsisque pallidioribus, femoribus tibiisque duabus posticis apice nigricantibus; alis subhyalinis, costa, stigmatate venisque pallide brunneis, cellula prima et secunda submarginali fere æqualibus, tertia duplo longiore, apice valde obliquo et curvato, margine antico pone stigma humil subito oblique truncato.

Foemina differt colore obscuriore, nigricanti-cyaneo tincta, vertice absque linea media impressa, metanoto postice obscuriore, corpore toto infra cum coxis cyaneo nitido, mesopleuris valde rugosis cyaneis, nubila postica oblonga subfulva.

Long. corp. ♂ lin. 8-8½, ♀ lin. 9. Expans. alar. antic. lin. 16.

Hab. in Australasia, Adelaidam (Wilson). In Mus. Hopeiano Oxoniæ.

5. PERGA BRULLEI, sp. nov. (Plate XXXIV. fig. 6.)

Mas. P. dorsali affinis, at dimidio minor, aliter coloratus, alisque anticis apice acute oblique truncatis; capite nigro, clypeo, labro, tuberculis duobus antenniferis, guttis duabus oratis verticalibus, margine postico oculorum et macula parva faciei utrinque inter oculos et antennis fulvis; antennis brevissimis, testaceis; mandibulis fulvis, dentibus nigris; collaris lateribus fulvis dilatatis, macula parva antice nigra; mesonoto macula parva hastata dorsali, tegulis linea tenui a scutello utrinque ad basin alarum ducta scutelloque fulvis, hoc glabro nitido semicirculari, punctis perpauca lineaque media impressa fere obsoleta, tuberculisque duobus oblongis parvis instructo; abdomine parvo, luteo-testaceo, dorso cæneo setisque cinereis subsericante; mesosterno nigro nitido, valde convexo, pleuris macula magna oblonga, metapleurisque macula parva obcordata fulvis; pedibus basi nigro luteoque variis, femoribus quatuor posticis subtus ventreque picceo-nigris; pedibus fulvescentibus; alis infumatis, costa venis et stigmatate crasso obscurioribus, margine antico alarum pone stigma subito oblique truncato; cellula prima submarginali majore quam secunda.

Long. corp. lin. 6½. Expans. alar. antic. lin. 13.

Hab. in Australia australiore. In Mus. Hopeiano Oxoniæ.

6. PERGA VOLLENHOVII, sp. nov. (Plate XXXIV. fig. 5.)

Mas. *Capite angustiore quam thorax; thorace magno, oblongo, nitido; abdomine parvo, depresso sericeo; capite nigro, vertice parum æneo; labro, clypeo, maculis duabus rotundis ad basin antenarum, maculis duabus oblongis inter has et oculos, lateribus capitis pone oculos maculisque duabus verticalibus obliquis pallide flavis; (antennæ detritæ;) mandibulis albidis, apicibus nigris; collaris lateribus late albidis (pone oculos nigro antice notatis); mesonoto nigro, subæneo, nitido, parce punctato, macula trigona albida in medio dorsi; scutello magno, nitido, fere plano, albido, margine postico rotundato et tenuiter nigro; thorace subtus nigro nitido, lateribus punctatis, meso- et metapleuris infra alas maculis duabus (postica minore) albidis notatis; coxis omnibus nigris nitidis; abdomine (multo minore quam thorax) supra fulvo, segmento basali omnino, reliquis dorso nigris, apice truncato; abdomine subtus cum pedibus fulvis, his perbrevis; alis pallide luteo tinctis, costa venisque magis luteis, stigmatem magno castaneo, margine antico post stigma obliquo; cellula prima submarginali distincta, at luteo suffusa et quam secunda minore, tertie vena upicali obliqua et parum curvata.*

Long. corp. unc. $\frac{2}{3}$ (lin. 8), thoracis dorsi lin. 4. Expans. alar. antic. unc. $1\frac{1}{4}$.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

7. PERGA RITSEMEI, sp. nov. (Plate XXXIV. fig. 7.)

P. *Vollenhovii proxima, sed multo minor et fluvido magis colorata; capite nigro; labro, clypeo, mandibulis (dentibus nigris exceptis), macula trigona supra clypeum in medio canaliculato, maculis duabus rotundis in medio faciei cum aliis duabus intra orbitas oculorum, lateribus capitis pone et infra oculos maculisque duabus trigonis verticalibus flavis; antennis brevissimis, fulvis; collaris lateribus magnis flavis; mesonoto macula mediana acute trigona, lineis duabus gracilibus rectis lateralibus aliisque duabus obliquis a scutello ad basin alarum anticarum extensis, scutelloque semicirculari flavis, hoc utrinque versus angulos laterales posticos tuberculo parvo instructo; segmento basali abdominis supra æneo, secundo linea basali transversa tenuissima nigra, reliquis segmentis cum pedibus brevibus fulvis; thorace subtus nigro nitido, pleuris mesothoracis macula magna late triangulari flava (puncto nigro incluso), metathoracis gutta trigona fluvi; coxis 4 posticis et basi femorum subtus piecis; alis pallidis, venis luteis, stigmatem subcastaneo, cellulis submarginalibus parvis, primo majore quam secunda, margine antico alarum pone stigma obliquo.*

Long. corp. lin. 6. Expans. alar. antic. lin. 12.

Hab. Adelaidam. In Mus. Hopeiano Oxoniæ.

8. PERGA ESENBECKII, sp. nov. (Plate XXXV. fig. 5.)

Fœmina. Nigra, nitida, punctata, fluvido varia, abdomine supra

rufo, alis anticis ultra medium fuscis; labro et clypeo albidis, hoc tuberculis duobus minutis fuscis in medio, alterisque duobus oblongis in parte infera faciei, tuberculis duobus antenniferis albidis; antennis nigris, ultra oculos lateraliter extendentibus, articulo tertio dimidio longiore quam quartus; vertice nigro, bisulcato, sulcis in puncta duo fulva postice terminantibus; oculis postice et infra albido marginatis; mandibulis fuscis, apice nigris; collaris lateribus albido postice marginatis; mesonoto antice sulco in carinam acutam terminante sulcisque duobus obliquis postice conjunctis et ad scutellum extensis; hoc oblongo, sulcato, nigro, apice bituberculato albidoque marginato, angulis anticis lateralibus cum linea tenui obliqua lutea ad basin alarum extensa conjunctis; metanoto linea tenui lutea marginali ad basin posticam alarum posticarum extensa; abdomine sanguineo, nitido, segmentis duobus basalibus et apicali cæneo tinctis; mesopleuris lunula clavata marginuli et metapleuris macula albidis notatis; abdomine infra nigro nitido; coxis et trochanteribus albidis, illis macula trigona nigra basali notatis; femoribus nigris, genibus tibiisque cum tarsis anticis fuscis, apice tibiurum infra fusco, tibiis posticis et tarsis brunneo-nigris; alis basi subhyalinis, venis et stigmatibus nigris, dimidio apicali anticarum (presertim sub stigmatibus) fuscis, cellula submarginali prima et secunda longitudine æqualibus, tertia duplo longiore, apice obliquo.

Long. corp. lin. 6 $\frac{2}{3}$. Expans. alar. antic. lin. 13 $\frac{1}{2}$.

Hab. Swan River. In Mus. Hopeiano Oxoniæ.

9. PERGA GRAVENHORSTII, sp. nov. (Plate XXXV. fig. 7.)

Fœmina. Nigra, subopaca, rugosa, abdomine obscure fulvo-rufescente, segmentis 4°, 5° et 6° nigris, medio postice rufescentibus; capite nigro immaculato; clypeo et labro, mandibulis (dentibus nigris), pedibus antennisque obscure fulvis, harum articulis 3°, 4° et 5° fere æque longis; vertice bisulcato, linea transversa elevata a margine postico capitis separato; collaris lateribus piceo angustemarginatis; mesonoto antice sulco medio alterisque duobus postice acute conjunctis; scutello semiovali, sulco medio tuberculisque duobus posticis luteis instructo; metanoto et basi abdominis rufo-testaceis; hujus segmentis 4°, 5° et 6° supra nigris, macula trigona medio postico segmentorum relicta; coxis omnibus nigris nitidis; pleuris omnino nigris, punctatissime granulatis; abdomine subtu piceo-rufo; alis magnis, obscure fulvis, anticis dimidio basali obscuriore, marginibus apicalibus cinerascentibus; venis et stigmatibus obscure fulvis, cellula tertia submarginali mediocri, suboblonga, apice recto at parum obliquo.

Long. corp. lin. 7. Expans. alar. lin. 15 $\frac{1}{2}$.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

10. PERGA CHRISTII, sp. nov. (Plate XXXVII. fig. 2.)

Fœmina. Nigra, nitida, punctata, albido-varia, abdomine cæneo-cærulescente, pedibus albidis, femoribus apice nigris; alis basi hyalinis,

pellucidis, dimidio apicali anticarum fusco; capite parum angustiore quam thorax, mandibulis nigris, labro et clypeo brevibus albidis, tuberculis duobus anticis magnis, orbita antica et postica oculorum guttisque duabus ovalibus verticalibus albidis; collaris lateribus nigris, albido late marginatis; mesonoto gutta media alteraque utrinque ad basin alarum, scutelloque transverso, fere oblongo-quadrato, albidis, hoc tuberculis duobus postice instructo; abdomine convexo, levissime punctato; mesopleuris fere impunctatis, macula oblonga, et metapleuris gutta, albidis; mesosterno nigro, convexo, glaberrimo; coxis et trochanteribus nigro luteoque variegatis; femoribus luteis, subtus et posteriorum apice nigris; tibiis tarsisque luteo-albidis, illis subtus ad apicem linea fusca notatis; abdomine infra nigro nitido; alis fere hyalinis, dimidio apicali anticarum fuscis, venis stigmatumque nigris, cellula secunda submarginali vix majore quam basalis, tertia ad apicem valde obliqua et curvata.

Hab. Swan River. In Mus. Hopeiano Oxoniæ.

11. PERGA GUERINII, sp. nov. (Plate XXXV. fig. 1.)

Mas. Antennæ totæ nigrae, singulatim in tuberculo parvo flavido insidentes; caput nigrum, lateribus pone et subtus oculos, clypeo integro labroque flavidis, mandibulis nigris; collaris lateribus flavidis, macula trigona media nigra; thoracis dorso nigro rugoso; prosterni marginibus, maculis duabus oblongis infra alas, pedibus cum coxis abdomineque subtus flavidis; femorum et tibiurum 2 posteriorum dimidio apicali et annulis articularum tarsalium nigris; abdomine supra late chalybeo, sericante, segmento ultimo luteo; alis pallide brunneis, anticarum costa stigmatumque incrassatis fuscis, cellula prima submarginali oblitterata et in callositatem inter costam et stigma suffusa, margine antico alarum pone stigma oblique subtruncato et angustato.

P. ventrali (Guérin Mén.) affinis, at minor.

Long. corp. lin. 5½ (12 mill.).

Hab. in Australia. In Mus. Hopeiano Oxoniæ.

12. PERGA CAMERONII, sp. nov. (Plate XXXVII. fig. 3.)

Fœmina. Luteo-fulva, opuca, granulata, abdomine magis testaceo-fulvo, hujus apice, tibiis posticis et basi articuli primi tarsorum posteriorum nigris; mandibulis apice nigris, antennarum articulis duobus basalibus brunneis; scutello concolori, apice tuberculis duobus ordinariis et denticulis duobus intermediis obtusis instructo; corpore infra cum pedibus luteo-albidis; tibiis 2 posticis (nisi basi) tarsorumque articulo basali (nisi apice) nigris; capite utrinque pone oculos et mesopleuris brunneis; alis fulvescentibus, dimidio apicali pallidioribus, apice extremo fusco, venis cum stigmatum fulvo-brunneis, cellula marginali apice ovali, cellula prima submarginali parva, tertia oblonga apice recte truncata.

Long. corp. ♀ lin. 6½. Expans. alar. antic. lin. 13.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

13. PERGA FOERSTERI, sp. nov. (Plate XXXVI. fig. 1.)

Mas. *Gracilis, opaca, nigra, flavo varia, abdomine fascia basali guttisque trigonis lateralibus fulvis, labro flavo, clypeo nigro fascia supera flava; tuberculis duobus antenniferis maculisque duabus oblongis ad marginem internum oculorum, horum orbita postico-laterali guttisque duabus verticalibus rotundis flavis; antennis fulvis, ultra oculos lateraliter extensis, articulis duobus basalibus nigricantibus; mandibulis flavis, dentibus nigris; collaris lateribus flavis, antice nigris, macula parva discoidali et lateribus angustis mesonoti flavis; scutello fere quadrato, flavo, angulis posticis prominentibus; metanoto piceo; segmento basali abdominis obscure fulvo, postice piceo, segmentis reliquis nigris, postice chalybeis nitidis, singulatim macula trigona flava laterali notatis; pleuris nigris, punctatis, albido marginatis; mesosterno valde convexo, nigro, nitido, antice albido marginato; pedibus fulvis, coxis omnibus albidis, trochanteribus puncto nigro notatis; alis pallidis, venis et stigmatibus fuscis, area pone stigma fusco suffusa, cellula marginali apice acuto, cellula prima submarginali incompleta parva, secunda multo majore et tertiæ æquali, margine antico alarum pone stigma haud oblique truncato.*

Long. corp. lin. 6. Expans. alar. antic. unc. 1.

Hab. in Nova Hollandia. In Mus. Hopeiano Oxoniæ.

14. PERGA CRESSONII, sp. nov. (Plate XXXVII. fig. 1.)

Fœmina. *Nigra, nitida, flavido varia, abdominis segmentis mediis rufis, femoribus et tibiis 2 posticarum apice nigris; capite nigro, parce punctato, nitido; labro, clypeo, macula magna bipartita frontali ad clypeum extensa et cum macula utrinque ad oculorum marginem internum conjuncta, margine laterali capitis pone oculos guttisque duabus verticalibus flavidis; antennis brevissimis, fulvis; mandibulis totis nigris; thorace nigro, nitido, magis punctato et longitudinaliter impresso; collaris lateribus dilatatis, albidis, gutta antica nigra; scutello transverso, flavido, margine postico fere recto et utrinque angulato; metanoto et basi segmenti primi abdominis chalybeo-nigris; abdominis segmentis reliquis rufis, ultimis nigricantibus; mesopleuris macula oblonga et metapleuris gutta ovali flavidis; coxis nigris; femoribus anticis piceo-luteis, subtus fuscis, posticis nigris; tibiis tarsisque pedum posticorum apice piceis; alis hyalinis, fusco vix tinctis, stigmatibus venisque nigris, cellula prima submarginali majore quam sequens, tertiæ apice valde obliquo et curvato, area anali prope basin nubila fusca.*

Long. corp. lin. 8. Expans. alar. antic. lin. 14.

Hab. Swan River (De Boulay). In Mus. Hopeiano Oxoniæ.

15. PERGA WALKERII, sp. nov. (Plate XXXVI. fig. 5.)

Fœmina. *Nigra; capite, collaris lateribus dilatatis, pedibus anticis, tibiis et tarsis 4 posticis, abdominis dimidio opicali obscure fulvis; capite fulvo, linea parva inter oculos nigra, vertice convexo utrinque impressione rotunda parum profunda notato, lateribus collaris fulvis punctatis; mesonoto antice opaco et in medio linea*

tenui impresso, dorso pone lineam subplano nitido parum punctato; scutello nigro, nitido, subpunctato, transverso-quadrato, sulco medio, tuberculis binis minutis nigris instructo et postice marginato; metanoto et segmentis tribus basalibus abdominis nigris; horum lateribus sensim, cum segmentis reliquis abdominis totis, rufo-fulvis; thorace infra toto nigro, nitido, parum punctato; pedibus anticis, geniculis, tibiis tarsisque pedum 4 posticorum fulvis, coxis omnibus nigris nitidis; abdomine infra nigro nitido, lateribus cum oviductu rufo-fulvis; alis fulvis, stigmatate et venis castaneo-fulvis, cellulis prima et secunda submarginalibus distinctis fere æqualibus, tertia elongata, apice valde obliquo et in medio angulato.
Long. corp. lin. 8½. Expans. alar. antic. lin. 16.
Hab. in Nova Hollandia, Sydney. In Mus. Hopeiano Oxoniæ.

16. PERGA DALMANNI, sp. nov. (Plate XXXVI. fig. 2.)

Fœmina. Testaceo-fulva; labro, clypeo, tuberculis duobus antenniferis, margine postico loborum collaris pedibusque albidis, apicibus femorum et tiliarum posticarum nigris; capitis vertice pone ocellos biimpresso; antennis concoloribus, articulo tertio duplo longiore quam quartus; mesonoto sulco antico medio abbreviato, lateribus rectis acute elevatis; scutello subrotundato, convexo, punctato, bituberculato; abdomine subcylindrico, subnitido, cum metanoto concolori; corpore toto (cum pleuris) etiam concolori; pedibus cum coxis pallidioribus subalbidis, femoribus et tibiis pedum 2 posticorum apice nigris; alis subfulvescentibus, venis stigmatateque magis fulvis, cellula prima submarginali parva, vena ejus postica subobliterata, cellula secunda duplo majore, tertia haud multo majore quam secunda, apice paullo curvato.

Long. corp. lin. 5. Expans. alar. antic. lin. 10.

Hab. in Nova Hollandia. In Mus. Hopeiano Oxoniæ.

Variat paullo major coloribusque magis vividis; scil. loborum collaris marginibus, tuberculis scutelli lineaque utrinque a scutello ad basin alarum flavidis, collaris disco lineisque duabus lateralibus mesonoti nigricantibus, venis alarum piceis, femoribus posticis fulvis, mesosterni medio piceo.

Long. corp. lin. 5⅔. Expans. alar. antic. lin. 11½.

Hab. in Australasia, Melbourne (Thwaites). In Mus. Hopeiano Oxoniæ.

17. PERGA HARTIGII, sp. nov.

Fœmina. Capite, thorace cum scutello piceo-nigris, punctatissimis; abdomine, pedibus alisque fulvis; clypeo et labro cum tuberculis antenniferis fulvis nitidis; antennis albidis, oculos ultra extensis, articulis tribus intermediis gracilibus æque longis; capitis lateribus verticeque postice et marginibus angustis loborum collaris fulvis; mesonoto antice sulco tenui abbreviato, duobus alteris profundioribus obliquis, postice conjunctis, mesonoti lateribus acute elevatis parallelis; scutello subrotundato, opaco, in medio parum impresso, tuberculis duobus parvis fulvis instructo; metanoto abdomineque fulvo; thorace subtus nigro, nitidissimo; pleuris scabris, concolori-

bus ; coxis nigris, trochanteribus et basi femorum albidis ; pedibus fulvis, femoribus duobus posticis nigricantibus ; alis fulvescentibus, stigmatе venisque magis fulvis, cellula prima et secunda fere aequalibus, tertia præcedentibus duobus simul sumptis paullo minore, apice obliquo et fere recto.

Long. corp. lin. 8. Expans. alar. antic. lin. 16.

Hab. in Nova Hollandia. In Mus. Hopeiano Oxoniæ.

18. PERGA PELETIERII, sp. nov. (Plate XXXV. fig. 6.)

Mas. Piceo-nigra, opaca, abdominis dimidio basali testaceo, apicali nigro nitido ; capite thoracis latitudine, labro et clypeo nigris nitidis, mandibulis fulvis dentibus nigris ; antennis longioribus, ultra oculos lateraliter extensis, articulis tertio, quarto et quinto oblongis, sexto basi angustato ; vertice subplano, guttis duabus dorsalibus lineisque duabus posticis fulvis ; collari piceo-nigro, linea tenuissima marginali ; scutello fere rotundato, convexo, tuberculis duobus posticis fulvis, metanoto et segmentis duobus basalibus abdominis læte testaceis, segmento tertio nigro opaca, reliquis nigris nitidis ; pleuris mesosterni nigris, punctatis, margine tenuissimo antico luteo, mesosterno nigro nitido ; abdomine angustiore quam thorax, convexo, lateribus parallelis ; coxis et trochanteribus nigro luteoque variegatis ; pedibus testaceis ; alis fulvis, costa stigmatеque et cellulis sub stigmatе magis fulvis, apice alarum cinerascente, cellula marginali oblongo-ovata, basi et apice attenuatis, cellula submarginali secunda pentagonali, margine antico alarum pone stigma haud angulato-truncato.

Long. corp. lin. 6½. Expans. alar. antic. unc. 1.

Hab. in Nova Hollandia. In Mus. Hopeiano Oxoniæ.

19. PERGA NEWMANNI, sp. nov.

Mas. Fusco-nigricans, capite et thorace opacis granulosis, abdomine nitido, capitis vertice subplano a parte postica lutea angusta subacute separato ; antennis perbrevis ; collari, scutello, lateribus mesonoti, abdomine (segmentis duabus basalibus nigricantibus exceptis) pallidioribus luteo-testaceis ; thorace subtus cum pedibus omnino luteo, femoribus tibiisque duabus posticis magis castaneis ; mesopleuris concoloribus, granulosis ; mesosterno polito, linea media longitudinali impresso ; scutello convexo, medio subimpresso, postice bituberculato ; pedibus brevibus ; alis fulvis, venis obscurioribus, costa et stigmatе castaneis, margine antico alarum pone stigma oblique truncato, cellula marginali apice truncata, cellula prima submarginali cum sequente confluenta (vena transversa fere obsoleta).

Long. corp. unc. ½ (6 lin.). Expans. alar. antic. lin. 11.

Hab. in Australia. In Mus. Hopeiano Oxoniæ.

Var. Minor, coloribus clarioribus, facie (infra oculos), capite pone oculos, lateribus collaris et mesonoti, scutello corporeque subtus omnino magis fulvis (mas).

Long. corp. fere lin. 5. Expans. alar. antic. lin. 10.

20. PERGA KIRBII, Leach, Zool. Misc. iii. p. 117. (Plate XXXVII. fig. 4.)

“*P. lutescens, capite thoraceque supra fusco-ferrugineis, abdominis dorso violascenti-ferrugineo; alis hyalinis, costa stigmatæque ferrugineis; abdomine lineari. Maris long. corp. 9, expans. alar. 18 lin. Mus. Kirby.*”—LEACH.

Obs. Typus masculinus Leachianus hujus speciei valde distinctæ olim in Mus. Kirbii, nunc in Mus. Hopeiano (a Leachio ipso in-scriptus) hospitatur.

21. PERGA DAHLBOMII, Westw. (Plate XXXV. figs. 3, 4.)

P. bicolori, Leach, affinis magnitudine et habitu, differt scutello plano, postice marginato, cellulaque secunda submarginali parva tertiæque subovali imprimis distincta.

Capite nigro; labro, clypeo mandibulisque concoloribus, tuberculis antenniferis guttaque pone oculos luteis; antennis brevissimis, nigris; collaris lateribus dilatatis, luteis, antice parum obscurioribus; scutello albido-luteo, subplano, postice tenuiter marginato; abdomine nigro-chalybeo; alæ stigmatæ venisque nigris, cellulis submarginalibus prima et secunda æqualibus, tertia multo majore elongata sabovuli, apice valde curvato; pleuris mesosterni nigris, macula magna semiovali et metapleuris gutta rotunda luteis notatis; coxis anticis basi albidis; pedibus luteis, femoribus omnibus basi apiceque tibiæ et tarsorum in posticis nigris.

Mas differt vertice longitudinaliter impresso, et maculis duabus rotundis luteis notato, thorace magno, antice elongato, abdomine parum minore quam thorax, alarum anticarum stigmatæ magno margineque antico pone stigma haud subito oblique truncato.

Long. corp. ♂ lin. 5, ♀ 6½. Expans. alar. antic. ♂ lin. 10, ♀ lin. 12.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

22. PERGA BICOLOR, Leach, Zool. Misc. iii. p. 116.

“*Pernigra, clypeo, capitis lateribus, thorace ante squamas utrinque, scutello, tibiis, tarsis coxisque 4 posticis albidis, tarsis tibiisque 4 posticis apice nigris; alis hyalinis, apice fuscescentibus, pterygosteis nigris. Femora postica basi albida. Mas adhuc latet.*” (Leach.)

Species nigra, labro nigro, clypeo scutelloque luteis, coxis, trochanteribus basi que femorum 2 posticorum albidis distincta.

Scutellum convexum, medio longitudinaliter impressum. Alarum anticarum cellula secunda submarginalis præcedente vel sequente major; cellula tertia subquadrata.

Long. corp. 7½. Expans. alar. 11¾ lin.

Long. indiv. nonnullorum femineorum in Mus. Hopeiano lin. 6½; expans. alar. antic. lin. 12½.

Hab. in Australasia (South Australia, Damell).

23. PERGA SPINOLÆ, sp. nov. (Plate XXXVI. fig. 4.)

Fœmina. Subgracilis, cylindrica, piceo-nigra, punctata, abdominis basi et apice flavis, alis anticis dimidio apicali magis fuscis; labro,

clypei margine, antico orbita (nisi supra) oculorum et tuberculis antenniferis obscure fulvis, vertice immaculato bisulcato; collari nigro, flavido tenuiter marginato; mesonoto longitudinaliter sulcato scutello subquadrato, tuberculis duobus ad angulos posticos fulvis instructo; abdomine piceo, segmento primo et duobus ultimis fulvis, reliquis postice tenuissime fulvo marginatis, pleuris mesothoracis et mesosterno valde convexis, nigris, nitidissimis, metapleuris gutta parva fulva; femoribus 4 anticis piceis, basi et apice pallidis; coxis posticis dimidio apicali cum trochanteribus et dimidio basali femorum albidis; tibiis anticis piceo et flavido variis, posticis flavidis, apice late nigris; tarsis flavidis; alis basi pallidis, ultra medium obscurioribus, stigmatibus fulvo, venis nigricantibus, cellula prima submarginali distincta at minore quam sequens, secunda et tertia fere æqualibus, apice recte truncatis.

Long. corp. lin. 6. Expans. alar. lin. 12 (1 unc.).

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

24. PERGA LATREILLII, Leach, Zool. Misc. iii. p. 116. (Plate XXXVI. fig. 3.)

“*P. luteo-ferruginea; capite, thoracis dorso tarsisque posticis basi nigris, pectore ventreque lutescentibus; clypeo, vertice maculis, scutello squamis, thoracis margine pleurisque albidis; alis hyalinis; pterygosteis luteis; abdomen articulis duobus primis basi utrinque nigricantibus; antennæ articulis duobus basilaribus nigris. Fœmina latet.*

“*Long. corp. lin. 5 $\frac{1}{4}$. Expans. alar. 9 $\frac{1}{5}$ lin.*” (Leach.)

Descriptionem fusiorem typi Leachiani hujus speciei in Museo Britannico hic offero:—

Caput latum, supra nigrum, margine postico lateraliter dilatato, punctis duobus parvis verticalibus ovalibus, alteris duobus ad marginem internum oculorum, tuberculis duobus antenniferis, antennis (nisi articulis duobus basalibus nigris), clypeo transverso convexo luteo-fulvis; labro obscure fusco; collari nigro postice fulvo marginato, lateribus fulvis; mesonoto piceo-nigro, macula trigona media dorsali scutelloque fulvis; segmentis duobus abdominalibus rufo-fulvis, basi nigris; abdomine reliquo pedibusque castaneo-rufis, illo angusto, subparallelo, apice truncato; tarsis posticis fuscis; alis obscure fuscescentibus, costæ basi stigmatibus fuscis.

Individa tria masculina, in Mus. Hopeiano conservata, huic speciei pertinentia (ut mihi videtur) puncto elongato-luteo in medio dorsi thoracis (ante scutellum) tarsisque posticis basi parum obscurioribus (nec nigris), alis pallide infumatis, costa stigmatibus brunneis distinguuntur.

Long. corp. lin. 5. Expans. alar. lin. 9.

Hab. in Australasia (South Australia, Darnley).

25. PERGA MACLEAII. (Plate XXXV. fig. 2.)

Species perelegans, glaberrima, capite et thorace fulvis, hoc nigro bimaculato; abdomine chalybeo, albido fasciato; alis flavidis, medi

fusco fasciatis; capite fulvo, lævi, fronte antice in medio supra basin antennarum parum porrecta, vertice pone ocellos triimpresso, mandibulis apice castaneis; (antennis fractis;) mesonoto antice canali medio instructo, lateribus dorsi elevatis nigris, utrinque linea impressa obliqua a dorsi medio separatis; scutello transverso quadrato, postice parum angustato, in medio subimpresso, utrinque postice tuberculo fulvo instructo; abdomine chalybeio nitidissimo, segmentis basalibus utrinque, posticis omnino albido fasciatis; corpore infra fulvo; abdomine cyaneo, segmentis anguste albido marginatis; pedibus piceis; alis magnis, flavidis, costa stigmatæque castaneis, hoc basi nigro, fascia media transversa fusca; cellula marginali fere ad apicem alæ extensa, cellula prima submarginali brevi transversa, secunda et tertia fere æque longis, hac latiore, apice recte truncato; cellula marginali in alis posticis interdum vena transversa recta prope apicem in duas partes divisa. (Fœmina.)

Long. corp. lin. 6½. Expans. alar. antic. lin. 14.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

26. PERGA BELLA, Newman, 'Entomologist,' p. 89.

"Testacea: caput testaceum, oculis nigris; ocelli nigri in macula concolori siti; antennarum articuli 1. et 2. aterrimi, apicibus tenuiter albis, 3. fuscus, cæteri lutei; antennæ tubere albo sitæ; oculorum margo anticus albus, genæ quoque albæ; epicranium asperum, maculis 2 albis signatum; clypeus testaceus, lateribus albis: prothoracis scutellum margine postico albo: mesothoracis scutum asperum, punctum, linea mediana marginibusque lateralibus elevatis albis, lineis quoque nonnullis nigris; mesothoracis scutellum dentibus 2 posticis sublongis obtusis instructum; mesopleura puncta, margine imo falciformi late albo: metapleura nigro varia, macula elevata mediana subtrigona alba; mesosternum aterrimum, glaberrimum: pedes flavidi, coxis albis: abdomen testaceum, maculis 7 lateralibus elongatis albis, subtus testaceo nigroque varium.

"Corp. long. 7 unc., alar. lat. 1·4 unc.

"Inhabits New Holland. A single specimen of this beautiful insect (now in cabinet of Entomol. Club) was taken by Mr. Davis at Adelaide."—Newman.

P. ferrugineæ, Leach, proxima, sed multo major, alarum anticarum medio paullo saturatiore. Variat colore saturatiore maculisque distinctioribus, maculis 7 oblongis, albidis, lateralibus abdominis distinguenda, abdomine etiam segmentis ventralibus interdum testaceis, interdum nigris nitidis segmento ultimo cum oviductu testaceo, interdum omnino nigris oviductu piceo.

Individua plurima fœminea in Mus. Hopeiano Oxoniæ hospitantur, variant longitudine unc. $\frac{1}{2}$ ad unc. $\frac{3}{4}$, et expans. alar. antic. unc. $1\frac{1}{6}$ ad unc. $1\frac{1}{2}$.

Individua hujus speciei ex Adelaida in museo Hopeiano cum nomine falso *P. ventralis*, Westw., inscripto e Dom. Smith accepta, et alia similiter nominata in Mus. Britannico continentur.

Alia individua, ex Adelaida, pallidiora (scil. magis lutescentia) in

museo Hopeiano etiam hospitantur cum nomine falso *Perga ferruginea*, Leach, a Smithio inscripta.

27. PERGA FERRUGINEA, Leach, Zool. Misc. iii. p. 118.

“*P. ferruginea abdomine pallidiorē ; labro, clypeo, fronte, antennis, tarsi omnibus tibiisque quatuor posticis luteis, alis subfulvescentibus. Mas latet.*

“*Long. corp. 6 $\frac{1}{4}$, expans. alar. antic. lin. 12.*” (Leach.)

Hab. in Australasia (Sidney, Moreton Bay, &c.).

Individua plurima cum typo Leachiano (a Leachio ipso inscripto) in Mus. Hopeiano hospitantur.

Caput et thorax opaca, abdomine magis castaneo nitido, femoribus tibiisque duabus posticis castaneis; alarum anticarum stigmatē castaneo, cellula marginali angusta fere lineari ad basin acutiuscula, versus apicem sensim latiore, apice obtuso, cellulis submarginalibus tribus basalibus perbrevibus, tertiæ apice obliquo.

28. PERGA LEWISII, Westw. Trans. Ent. Soc. Lond. vol. i. p. 234 (P.S.), and vol. ii. Proceedings, p. xlv; Arcan. Ent. i. p. 23, pl. 7. fig. 1.

Ochracea, capitis thoracisque linea laterali apiceque tibiæ et articulorum tarsalium posticorum nigris.

♀ *supra obscure ochracea; caput magnum, quadratum, fere thoracis latitudine; antennis articulo sexto præcedentibus tribus articulis parum longiore; venula transversa inter cellulas 1^m et 2^m alarum anticarum sæpe obsoleta; stigmatē magno; capite subtus et mesosterno luteis; tibiæ 2 posticæ apice, apiceque articuli primi tarsalis et articulis reliquis fere omnino nigris; antennæ perbreves, articulis 2^o, 3^o, et 4^o fere æqualibus; clypeus valde rugosus; prothorax (collare) in medio fere obsoletus; mesonoto plano continuo; scuto impressione a parapsidibus haud separato; scutello antice rotundato, angulis posticis oblique truncatis; abdomine ♀ depresso, apice acuminato; tarsorum articulis apice dilatatis; pedum posticorum tibiis apice apiceque articulorum tarsalium nigris; alæ anticæ stigmatē fere lineari angusto, apice subobtusos; cellula prima submarginali a secunda vena (sæpe oblitterata) vix separata.*

Long. corp. lin. 10. Expans. alar. antic. unc. 1 $\frac{1}{3}$ (=lin. 16).

Hab. in Terra Van Diemenii.

Individua plurima in Mus. Hopeiano Oxoniæ adsunt: marem non vidi.

Var. minor, coloribus et facie omnino simillima, e Terra Van Diemenii et Adelaida in Mus. Hopeiano. Long. lin. 8, expans. alar. lin. 13.

P. ferruginææ, Leach, valde affinis, sed multo major tarsi et articulis dilatatis distincta.

An interesting account of the habits of this species by Mr. R. H. Lewis appeared in the first volume of the ‘Transactions of the Entomological Society of London,’ with the heading “Case of Maternal

attendance on the Larva by an Insect of the Tribe of Terebrantia, belonging to the Genus *Perga*, observed at Hobarton, Tasmania." The female insect deposits her eggs in a longitudinal incision between the two surfaces of the leaves of one of the *Eucalypti*, adjoining the mid-rib. The eggs, about eighty in number, are placed transversely in a double series. They are of an oblong form, two lines in length and half a line in breadth. On this leaf the mother sits till the exclusion of the larvæ (which takes place in a few days); nor can she be made to leave the spot except by actual force, clinging to the edges of the leaf by her flexible tarsi. The larvæ, when hatched, are of a dirty-green colour, with shining black heads: they keep together in the brood, arranging themselves in oval masses with their heads pointing outwards. They appear to feed chiefly by night; the mother insect sitting with outstretched legs over her brood, preserving them from the heat of the sun and attacks of their enemies with admirable perseverance, never offering to use her wings (even when disturbed) or moving from the spot. Instances are mentioned where two mother insects were found tending one large brood, a smaller adjacent one being without the parent; and, although so anxious in the defence of the young, they allowed themselves to be transposed to other broods, which they tended with equal assiduity for a period of from four to six weeks. They were, however, never observed to render any direct assistance to the larvæ; indeed the broods which had been accidentally deprived of their mothers were still in a thriving state. Previously to casting their skins, the larvæ arrange themselves in an oval mass with their heads pointing outwards, and the anterior legs elevated, resting on the four posterior only. The remainder of the body is likewise thrown upwards; and their tails meet in the centre, forming a conical mass, concealed in the midst of which are the small and feeble individuals of the brood. In a subsequent communication Mr. Lewis states that there is but one brood in the year, and the earliest portion of their lives is passed during the winter season, when they are subject to heavy rains. When resting in the day the larvæ, like those of most other Terebrantia, carry their heads erect, emitting a drop of a yellow gummy fluid from the mouth; and if touched they throw their heads back and vomit this fluid in some quantity. It is very thick, and seems to be given to them as a protection against Ichneumonidæ, one of which tribe preys upon them; but the author had seen one of the Ichneumons dead with the wings and legs covered and glued together by this gummy matter.

29. PERGA SMITHII, Westw. (Plate XXXVI. fig. 6.)

Fœmina gracilis. P. lewisii similis, at multo minor, pallidior, abdomine nitido lutescente, dimidio apicali castaneo, tibiarum posticarum apice et articulis tarsorum posteriorum apicibus nigris.

Long. corp. lin. 6-7. Expans. alar. antic. lin. 10½-12.

Hab. in Australasia. In Mus. Hopeiano.

P. ferrugineæ, Leach, affinis, differt corpore graciliore, abdominis dimidio apicali obscure castaneo; tarsis elongatis, posticis nigro an-

nulatis. Caput subdepressum, punctatum, vertice bicanaliculato, macula elevata ovali nigra nitida utrinque pone oculos; antennis et mandibulis nigris. Thorax punctatus, utrinque macula parva nigra ante tegulas et ad originem impressionum duarum obliquarum (scutum mesothoracicum, medio canaliculatum includentium). Scutellum medio impressum, postice utrinque angulatum. Abdomen nitidissimum, pallide luteo-flavidum, dimidio apicali castaneo; pedibus elongatis, concoloribus, apicibus articularum tarsalium nec non tibiaram duarum posticarum nigris; corpore toto infra cum coxis et pedibus pallide luteo-flavido. Alæ pallide fulvescenti-hyalinæ, stigmatate castaneo, venis fulvis, cellula prima submarginale omnino oblitterata, secunda fere tertiæ æquali, hujus apice obliquo curvato.

Long. corp. lin. 7, expans. alar. lin. 12.

Hab. in Australasia. In Mus. Hopeiano Oxoniæ.

30. PERGA SCABRA, Newman, Zoologist, 1846, t. 4. p. 1274.

“Colour brown, the legs being paler than the body. The head is of nearly equal width with the prothorax and semiporrected; the ocelli are placed in a triangle, the base of which is much the longest, the anterior ocellus being but little in advance of the other two; every part of the head is rendered scabrous by irregular, deep, and often confluent punctures; the vertex has, moreover, two vague longitudinal depressions, and between them a slight central longitudinal sulcus terminating at the anterior ocellus; the antennæ are remarkably short, even for the genus, when extended laterally they scarcely reach beyond the eyes. The prothorax is sculptured in the same manner as the head, and has various depressed spaces and elevated ridges, all of which have a longitudinal direction. The abdomen is glabrous, its extremity much recurved. The wings partake of the brown colour of the entire insect.

“The length varies from $\frac{1}{5}$ to $\frac{1}{6}$ of an inch.

“Inhabits Australia (*Lieut. Ince*).” Newman.

An *P. ferruginea*, Leach?

31. PERGA VENTRALIS.

Perga (Pseudoperga) ventralis, Guérin-Ménéville, Icon. R. An. Ins. texte, p. 399.

“*Antennes* noires, avec une petite tache fauve sous l’extrémité du dernier article. *Tête* noire en dessus, jaune en dessous. *Mandibules* noires, labre jaune. *Chaperon* jaune bordé de noirâtre. Un petit point jaune sur l’insertion des antennes. *Thorax* rugueux, noir, bords latéraux au prothorax, côtés du mésothorax sur les rebords latéraux, tégules des ailes et une petite tache vague aux bords latéraux de l’écusson jaunâtres. Dessous du prothorax jaune. Dessous du mésothorax noir, avec une large tache jaune de chaque côté. *Ailes* hyalines à nervures rougâtres, le point épais est très dilaté, aussi large que la cellule radiale; et l’extrémité de l’aile se rétrécissant brusquement semble tronquée obliquement au bord antérieur à partir de la callosité. *Pattes* d’un jaune fauve, avec l’extrémité des cuisses,

des jambes et des tarses postérieurs d'un brun noirâtre. *Abdomen* jaune-fauve, avec tout le dessus d'un bleu noirâtre, garni d'un très fin duvet gris soyeux et chatoyant."

Long. corp. 15 mill.

Hab. in Terra Van Diemenii.

32. PERGA LEACHII, sp. nov.

Capite supra nigro, margine postico (lateribus dilatatis), maculis duabus oblongis verticalibus, antennis, facie infra antenas, mandibulis (apicibus nigris) pedibusque luteo-flavidis; collari picco, marginibus posticis luteis; abdomine obscure luteo-fusco, cærulescenti metallice nitente; scuto mesonoti trigono, postice luteo marginato, in medio canaliculato, marginibus elevatis scutelloque luteis; hoc obtrigono, postice tuberculis duobus prominentibus instructo; abdomine infra luteo-fulvo.

Long. corp. lin. 6. *Expans. alar. antic. lin. 11.*

In Museo Britannico insectum fœmineum continetur nomine falso *P. kirbii* inscriptum.

Etiam in Museo Hopeiano (e Melbourne), alis pallide lutescentibus, anticis apice rotundatis, stigmate obscuriore; cellula prima submarginale parva sed distincta, quadrata, cellula tertia magna, antice et postice recte truncata, antennis distincte 7-annulatis.

33. PERGA HALIDAI, sp. nov. (Plate XXXVII. fig. 5.)

P. leachii valde affinis forma et structura, sed minor et aliter colorata.

Fœmina. *Capite et thorace nigris subnitidis, levissime punctatis, facie infra, lateribus capitis et maculis duabus verticalibus, antennis, pedibus, scutelloque bituberculato fulvis; abdomine castaneo; alis fulvis; labro, clypeo (cum punctis duobus minimis mediis nigris), mandibulis (dentibus nigris) et lateribus capitis fulvis; vertice nigro, convexo, haud sulcato, maculis duabus ovatis fulvis; antennis ultra oculos longe extensis, distincte 7-annulatis, articulo tertio duobus sequentibus simul sumptis longitudine equali gracili, ultimo ovali, certo situ ante medium ejus subarticulato; collaris lateribus nigris, fulvo marginatis; mesonoto nigro, sulco antico longitudinali et duobus alteris obliquis postice convergentibus; scutello semiovali, convexo, supra subsulcato, postice tuberculis duobus obtusis instructo, lineisque 4 gracilibus a scutello utrinque ad basin alarum extensis; metanoti annulo ultimo (fulvo marginato) basique segmenti primi abdominis nigris; reliquis segmentis rufis, lateribus albidis, segmentisque cæruleo parum nitidis; mesosterno cum pleuris nigris nitidis, fere impunctatis, his albedo late marginatis, et metapleuris macula ovali albida notatis; pedibus cum coxis pallide fulvis; abdomine infra basi fusco, postice cum lateribus late albidis; alis pallide fulvis, stigmate et venis fulvis, cellula prima submarginale parva distincta quadrata, secunda duplo majore, tertia magna, oblonga, apice recte truncata.*

Long. corp. lin. 6½. *Expans. alar. antic. lin. 14.*

Hab. in Adelaida. In Mus. Hopeiano Oxoniæ.

34. PERGA JURINEI, sp. nov. (Plate XXXVII. fig. 6.)

Mas. *Nigra, flavido varia, abdomine supra purpureo, ultra medium magis cærulescente, apice extremo luteo, antennis pedibusque fulvis, alis subfulvis, anticarum medio fusco purum suffuso; capite supra transverse quadrato, convexo; labro, clypeo antice, tuberculis antenniferis, antennis, capitis lateribus pone oculos et intraorbitali maculisque duabus oblongis verticalibus fulvis; antennis distincte 7-articulatis, articulo tertio longitudine quarti et quinti simul sumptis æquali, sexto parum majore quam præcedens, septimo oblongo ovali; ocello centrali in fossula posito; collaris lateribus nigris late flavo marginatis; mesonoto nigro, punctatissimo; scutello parvo, semiovali, postice bituberculato, convexo, utrinque cum linea tenuissima ad basin alarum extensa fulva; metanoto perbrevis, postice tenuiter fulvo marginato; abdomine segmentis lateraliter fulvo marginatis; mesopleuris nigris, albido late marginatis; mesosterno nigro, nitido, antice albido lineato; abdomine infra lutescente; pedibus flavidis, femoribus et tibiis 2 posticis magis fulvis; alis pallide fulvescentibus, anticis medio obscurioribus, venis stigmatæque fulvis, cellula marginali elongato-ovalis, cellula tertia submarginali permagna, apice recte truncato.*

Long. corp. lin. $4\frac{1}{2}$. Expans. alar. antic. lin. 9.

Hab. in Australasia, Melbourne (Bakewell). In Mus. Hopeiano Oxoniæ.

Variat mas capite fere toto fulvo, fossula ocelligera lineisque duabus ex ocellis per verticem ductis obscuris; mesonoti scuto conico, fulvo, fossula media nigra antice notato, pedibus posticis fulvis.

Long. corp. lin. $5\frac{1}{2}$. Expans. alar. antic. lin. $10\frac{1}{2}$.

Hab. Swan River. In Mus. Hopeiano Oxoniæ.

35. PERGA MAYRII, sp. nov. (Plate XXXVII. fig. 7.)

Fœmina. *Capite toto, antennis (brevissimis), collaris lateribus, dorso mesonoti, maculis duabus scutelli, abdomine toto, pedibus anticis, tibiis tarsisque 4 posticis fulvis, scutelli parte relicta et metanoto castaneis, femoribus 4 posticis nigris; facie infra trisulcata, sulcis supra ocellos terminatis, vertice supra convexo integro; antennis tantum 5-articulatis, articulis 3^o et 4^o perbrevibus, secundo parum gracilioribus; collaris lateribus fulvis, punctatis; metanoto fulvo, in medio nigricante; scutello transverso, lateribus subrotundatis, postice leviter trisinuato, dorso subplano, castaneo, glabro, utrinque macula fulva notato; metanoto annuliformi, nigricante; abdomine subangusto, cylindrico, toto fulvo; coxis anticis piceis, posticis nigris, nitidis, femoribusque nigris geniculis luteis; thorace subtus nigro, nitidissimo, glabro; alis fulvis, venis stigmatæque castaneo-fulvis, vena inter cellulas prima et secunda submarginales fere oblitterata, cellula tertia magnitudine anticis duabus subæquali, hujus apice valde obliquo et curvato.*

Long. corp. lin. 7. Expans. alar. antic. lin. $13\frac{1}{2}$.

Hab. Swan River (De Boulay). In Mus. Hopeiano Oxoniæ.

